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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,427	10/21/2005	Kenya Takagawa	81864.0053	3085

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EXAMINER	
HEVEY, JOHN A	
ART UNIT	PAPER NUMBER
1793	
MAIL DATE	DELIVERY MODE
04/11/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,427	TAKAGAWA ET AL.	
	Examiner	Art Unit	
	JOHN A. HEVEY	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5 and 7-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5 and 7-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/4/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Application

Claims 1, 5, 7-12, and 14-16 are amended; Claims 17-18 are new. Claims 1, 5, are 7-18 are pending and presented for examination.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 5, and 7-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kono et al. (JP11-003813) in view of Inoue et al. (US5518642). A machine translation of Kono et al. is provided in this action.

Claim 1 is drawn to a sintered ferrite body comprising 62-68 mol% Fe_2O_3, 12-20 mol% ZnO, 0.2-5 mol% NiO, and the balance MnO, where the saturation

magnetic flux density at 100 C is 450 mT or more, and the minimum core loss value is 1200 kW/m^3.

Kono teaches a sintered body comprising 52-68 mol% Fe_2O_3, 0-15 mol% ZnO, 0.5-10 mol% NiO, 0.05-0.5 mol% CoO, and the remainder MnO (see abstract). The reference fails to teach specific examples which read on all required ranges of claim 1, however it would have been obvious to one of ordinary skill in the art to choose from the overlapping portion of the ranges. Overlapping ranges have been held to establish prima facie obviousness. See MPEP 2144.05.

Furthermore, although Kono does not explicitly teach the saturation magnetic flux density and minimum core loss value at the given measurement conditions required by claim 1, those properties are considered to be inherent to the material. Therefore, as Kono teaches substantially the same composition as that required by the instant claims, it would inherently possess these properties as well.

In the alternative, Inoue et al. teaches a sintered ferrite material comprising 62-66 mol% Fe_2O_3, 14-28 mol% MnO, and 10-20 mol% ZnO (see claim 6) and teaches additives such as NiO can be added without detrimental results (see col. 6, lines 52-55). It would have been obvious to one of ordinary skill in the art to select from the overlapping portion of the regions of Kono in view of Inoue. Overlapping ranges have been held to establish prima facie obviousness.

In regards to claim 5 and 7, Kono teaches the addition of 0.02-0.3 wt.% CaO (approximately 200-3000 ppm)and 0.01-0.1 wt.% SiO_2 (approximately 100-1000 ppm) (see abstract). The reference further teaches examples where the ratio of SiO_2 / CaO content is 0.09, 0.12 (see examples 18 and 23 on table 2).

The reference differs in that it discloses the use of CaO and not $CaCO_3$. However, it would have been obvious to one of ordinary skill in the art to modify the composition of Kono to include $CaCO_3$ in place of CaO as taught by Inoue. Inoue teaches the addition of $CaCO_3$ and SiO2 resulting in final amounts of 0.1 wt% CaO and 0.02 wt% SiO2 a ratio of 0.2 (see example 1).

Thus, it would have been obvious to one of ordinary skill in the art to modify the teachings of Kono in view of Inoue to include the amounts of SiO_2 and $CaCO_3$ as required by claims 5 and 7. One would have been motivated to make this modification to increase industrial applicability, using a well known source of calcium, $CaCO_3$.

In regards to claims 8-10, Kono teaches the addition of oxides selected from Nb_20_5, V_20_5, HfO_2, in the amount of 0.005-0.05 wt.% (approximately 50- 500 ppm) Ta_20_5, ZrO_2 in the amount of 0.005-0.1 wt.% (approximately 50-1000 ppm) TiO_2 in the amount of 0.05-0.5 (approximately 500-5000 ppm) and SnO_2 in the amount of 0.01-0.5 (approximately 100-5000 ppm) (see claim 3).

In regards to claims 11-13 and 15-16, although the instant Claims are further require the saturation magnetic flux density, minimum core loss value, and initial permeability at given measurement conditions, these properties are

considered to be inherent to the material. Therefore, as Kono teaches a substantially similar composition as that required by the instant claims (see 103 rejection of claim 1 above), it would be expected to possess the same properties.

In regards to claims 14 and 17-18, Kono is silent as to the relative density and mean grain size of the sintered ferrite material. However, Kono establishes that the grain size and sintered density are result effective variables (see column [0024]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the instantly claimed ranges through process optimization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215. One would have been motivated to do so in order to obtain the best magnetic properties from the sintered ferrite and maximize industrial applicability of the invention.

In the alternative, Inoue teaches a sintered ferrite with grain sizes of 10 micrometers or less. It would have been obvious to one of ordinary skill in the art to select from the portion of the overlapping ranges. Overlapping ranges have been held to establish prima facie obviousness.

Response to Arguments

4. Applicant's arguments with respect to claims 1, 5, 7-16 have been considered but are moot in view of the new ground(s) of rejection.

For clarity, in respect to applicant's arguments regarding Kono et al., although the reference does not teach specific examples which anticipate the required ranges, the reference teaches clearly overlapping ranges which have been held to establish prima facie obviousness.

Terminal Disclaimer

5. The terminal disclaimer filed on 1/31/2008 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application Number 10/529,333 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN A. HEVEY whose telephone number is (571)270-3594. The examiner can normally be reached on Monday - Friday 7:30 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anthony J. Green/
Primary Examiner, Art Unit 1793

jah